ID That Tree

Objective

Students will use a scientific key to identify trees by their leaves.

Standards of Learning:

Science 4.8, 5.1, 5.5, 6.1, LS.5, BIO.1, BIO.7

Materials

- Single-page keys to trees of this State Forest
- Laminated photos of trees from the key
(- For older students - *Common Native Trees of Virginia* books)

Background (Can be done in the forest or, ideally, at school before the field trip)

For many reasons, people need to be able to identify trees. Knowing which trees are growing on a site can tell us about the soil, climate, and other environmental conditions there. Certain trees make good lumber, paper, medicines, food, or other products that people need. Some animals depend on particular tree species for survival. Other plants in a forest may grow best in the shade of certain types of trees. Some invasive types of trees can be harmful to the environment and might need to be removed. If you want to plant a tree in your yard, it's helpful to know which trees might grow best there, and what their specific requirements are so that you can take the best care of your tree.

Trees are generally easiest to identify when you can look at the leaves. Other characteristics you can use to identify trees are bark, twigs, reproductive parts, overall form, and growing site.

A scientific key provides a step-by-step method to identify leaves or other natural objects. If possible, review use of a key ahead of time. Teach students that when using a scientific key, they should always start at number one, read both choices carefully, and proceed as the key tells them. Skipping ahead may miss important details and lead to the wrong ID.

Before giving students a key, review some identification features of leaves. It is helpful to show the students some example leaves when reviewing these features. An identification guide with drawings, found near the front of *Common Native Trees of Virginia,* can help you understand these features better.

Look for these features of tree leaves:

- Are they deciduous (falling off in winter) or evergreen (on the tree all year)?
- How are they arranged on the stem? Are they directly opposite each other, or do they alternate with each other in a zigzag pattern?
- Are they simple (having only one part) or compound (having more than one part)?
- Are the veins and/or leaflets pinnate (branching off from different places along the main vein or stem) or palmate (branching from a single point at the base)?
- What do the leaf margins (edges) look like? Are they smooth, jagged, wavy, or do they have tiny teeth? Are there lobes (parts of the leaf that stick out from the main part, like your ear lobe)? If so, are the lobes pointed or rounded?
- How would you describe the shape of the leaf base and the leaf tip?
- Do the leaves have any special features, like a strong smell or interesting texture?

In the Forest

During a walk on the trail, look around for trees that seem to be fairly common. (You don't have to know what they are yourself – teachers and students can identify them together.) Stop in an area of your choosing, and choose several of the common trees for students to identify. Younger students should use the one-page key. Older students or those who already have experience with keying may use the key in *Common Native Trees of Virginia*. Have students work in pairs to identify the trees. They can check answers using the laminated pictures or the books.

Questions for Review and Discussion

- What are some reasons it may be important to be able to identify trees?
- What was the hardest part of using the key? How did you handle any problems?
- What other natural objects could be identified using a key?
- If you did not have a key, what are some other ways you could identify trees?
- How might the tree you identified be useful to wildlife? To people? To the surrounding environment?
- Why do you think these particular trees are common on this State Forest?